

Modified drug combination may reduce risk of recurrence for some breast cancer patients

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Masey Ross, M.D., and Charles Geyer, Jr., M.D. Credit: VCU Massey Cancer Center

Oncologists at VCU Massey Cancer Center were invited to co-author an editorial published in the *Journal of Clinical Oncology* providing expert commentary on findings from a large study conducted by German investigators that a modified drug combination may lead to a decreased

chance of disease recurrence for women with high risk, HER-2 negative breast cancer.

Masey Ross, M.D., medical director of the Integrative Health Program and breast medical oncologist at Massey, and Charles Geyer, Jr., M.D., associate director for [clinical research](#), Harrigan, Haw, Luck Families Chair in Cancer Research and breast medical oncologist at Massey, shed an optimistic light on the potential for a shift in the treatment protocol for an important subset of patients with early breast cancer.

Neoadjuvant chemotherapy (given before surgery) is the current standard of care for most women with lymph node positive or high risk, lymph node negative breast cancer. The regimen typically includes the use of the solvent-based drug paclitaxel (Taxol), which often contributes to allergic reactions and nerve damage in many patients.

Research reported by the German Breast Group (GBG) in 2016 had demonstrated that the substitution of the albumin-based drug nab-paclitaxel (Abraxane) instead of Taxol prior to surgery improved chances for a complete pathologic response at the time of surgery in patients with triple negative breast cancer, but not with other disease subtypes. A complete pathologic response refers to the elimination of all invasive cancer in the breast and [lymph nodes](#).

Nab-paclitaxel was initially approved as a treatment for metastatic breast cancer in 2005.

New findings published by the GBG revealed that the groups of patients who received nab-paclitaxel instead of the standard paclitaxel before surgery experienced improved long-term outcomes, meaning more of them were alive and disease-free following their surgery. This was found to be the case for women with triple negative, hormone receptor positive and HER-2 positive breast cancers.

These findings challenge a prevailing viewpoint in oncology by suggesting that drugs that aren't effective in increasing the percentage of complete pathologic responses could still result in better long-term outcomes.

"The study is interesting because it makes us rethink whether drugs administered prior to surgery that do not improve chances of having a complete response should be discarded under the assumption that they will not decrease a patient's risk of recurrence after surgery," said Ross, who is also an assistant professor of internal medicine at the VCU School of Medicine.

While the GBG findings indicate that nab-paclitaxel was more effective than standard paclitaxel for breast cancer patients across the board, Geyer and Ross believe that these study results could be particularly important for one breast cancer subtype over the other types.

"In our opinion, this information is most applicable in women with hormone receptor positive, HER-2 negative breast cancer," said Geyer, also a member of the Developmental Therapeutics research program at Massey and a professor of internal medicine at the VCU School of Medicine. "We feel it may not be particularly relevant for patients with HER-2 positive breast cancer because substantial improvements in HER-2 directed therapies co-administered with chemotherapy in this subset have occurred since the German study finished accruing patients. The improvements seen with nab-paclitaxel came at a cost of increased rates of neuropathy, and alternative approaches available for patients with HER-2 positive breast cancer are associated with less neuropathy."

Neuropathy, a debilitating form of nerve damage, may prevent HER-2 positive breast cancer patients from being able to tolerate subsequent administration of highly effective drugs such as T-DM1 that are significantly beneficial for women who did not have a complete

pathologic response at the time of surgery.

For triple negative breast cancer patients, some oncologists incorporate the use of a chemotherapy agent called carboplatin, which has been shown to improve chances for a complete response when administered before [surgery](#). The study conducted by the GBG did not factor in the use of carboplatin; therefore, it remains unclear how nab-paclitaxel will interact with it for this patient group.

"We suggest that physicians who do not incorporate carboplatin into treatment for women with triple negative [breast cancer](#) should consider nab-paclitaxel over standard paclitaxel," Ross said.

More information: Masey Ross et al, Nab-Paclitaxel: A New Standard of Care in Neoadjuvant Therapy of High-Risk Early Breast Cancer?, *Journal of Clinical Oncology* (2019). [DOI: 10.1200/JCO.19.00877](https://doi.org/10.1200/JCO.19.00877)

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